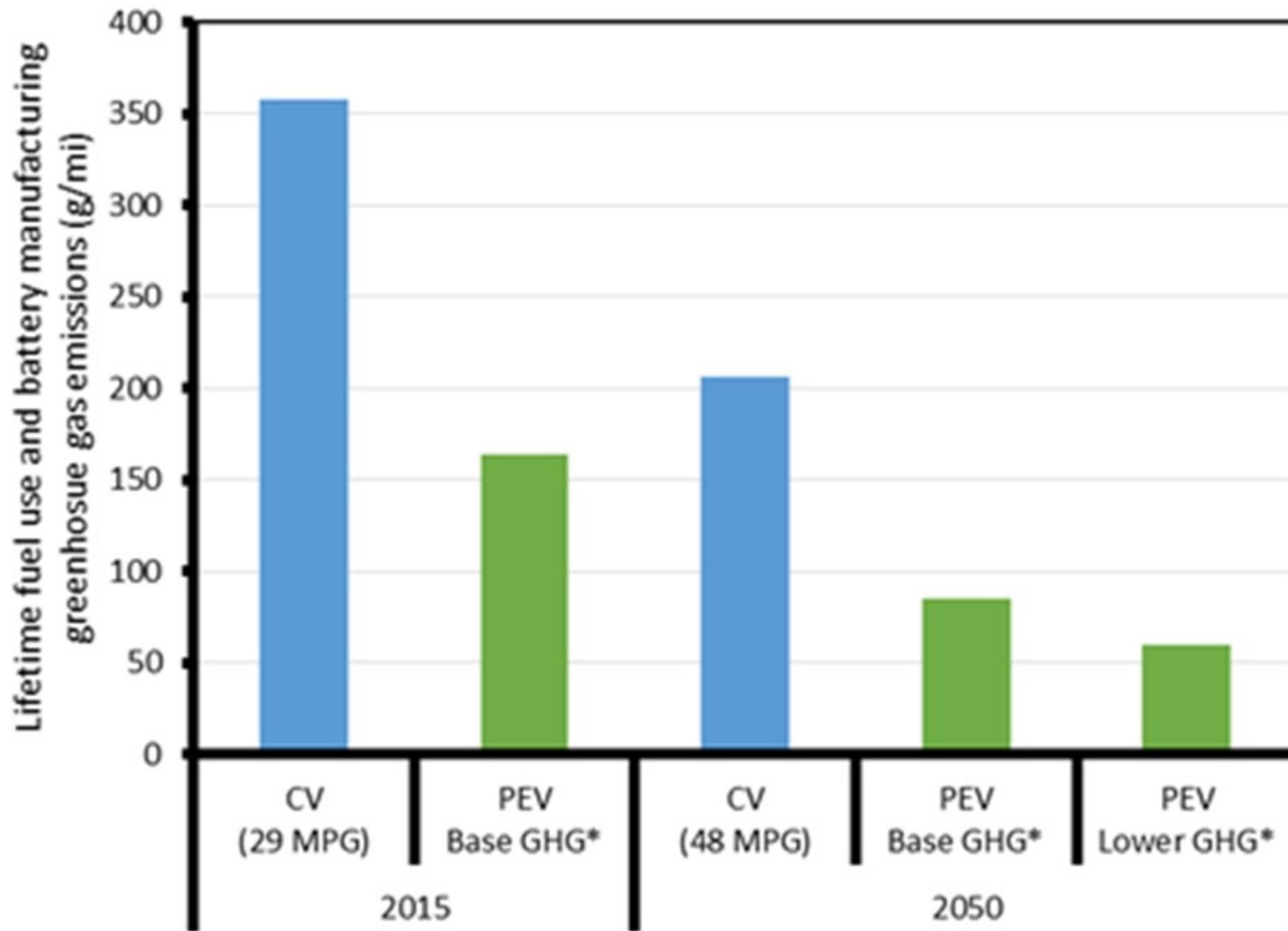


THE UTILITY ROLE IN DRIVING POLLUTION OUT OF THE TRANSPORTATION SECTOR

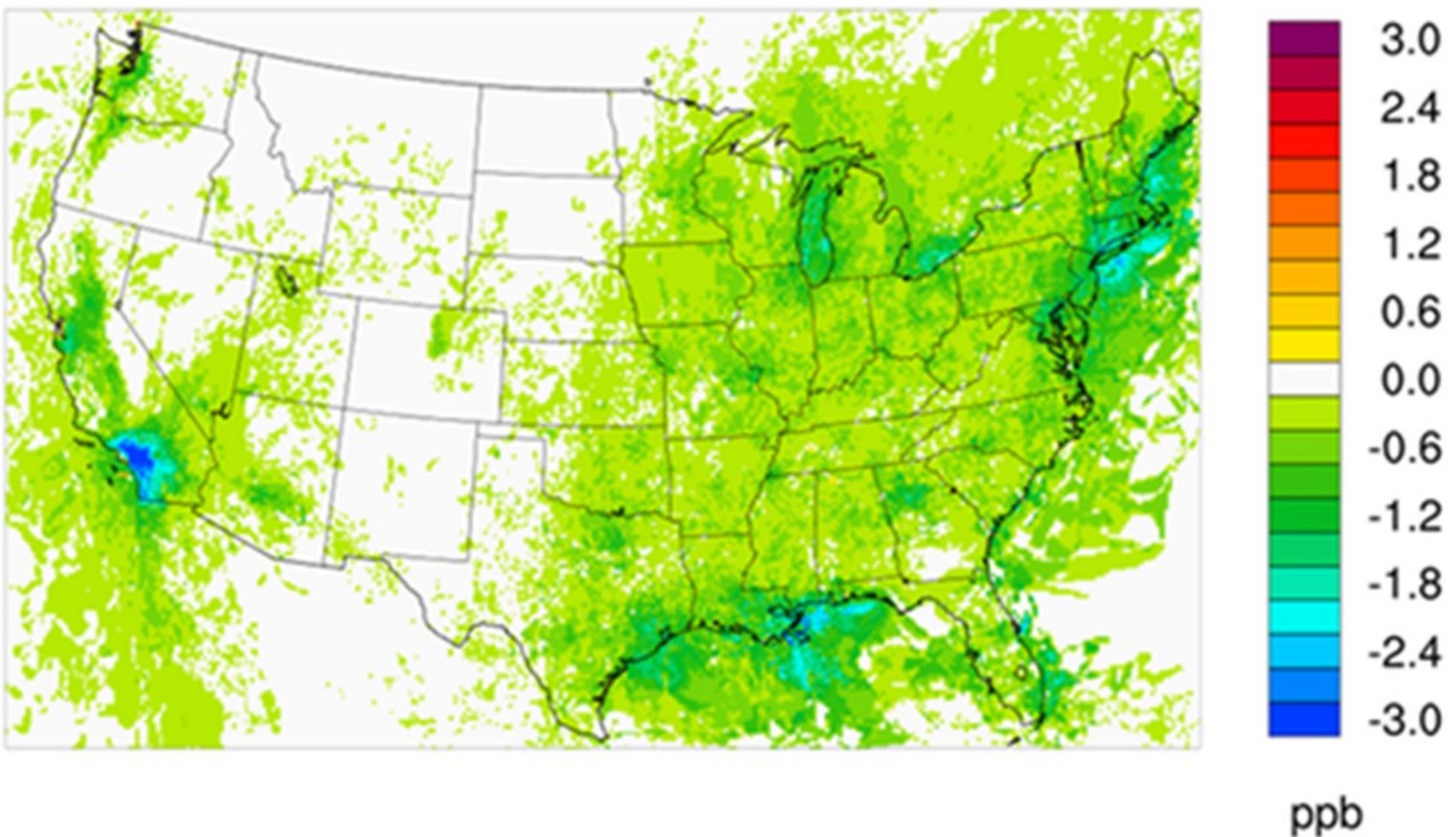


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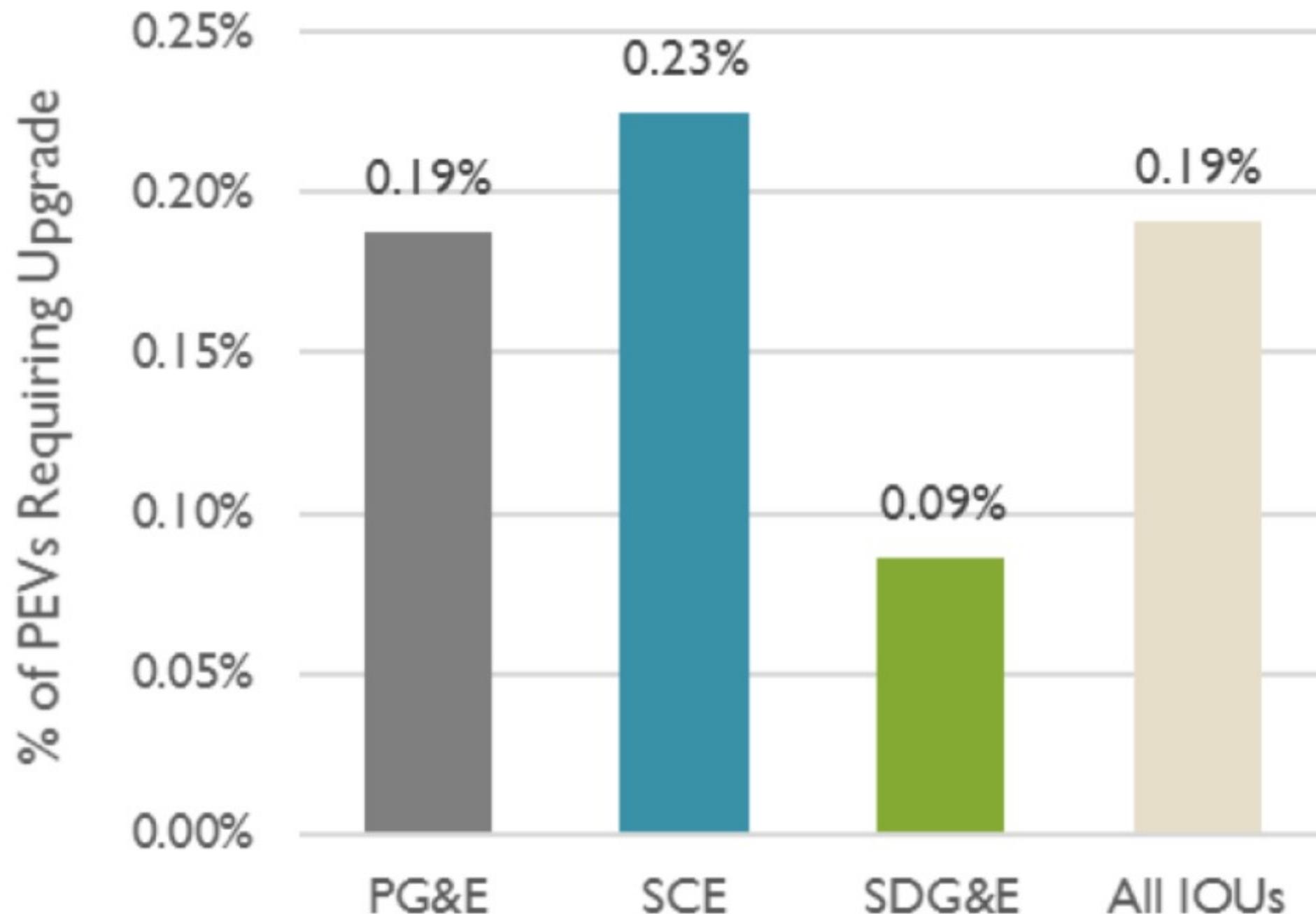
Are Electric Vehicles Green?



Are Electric Vehicles Green?



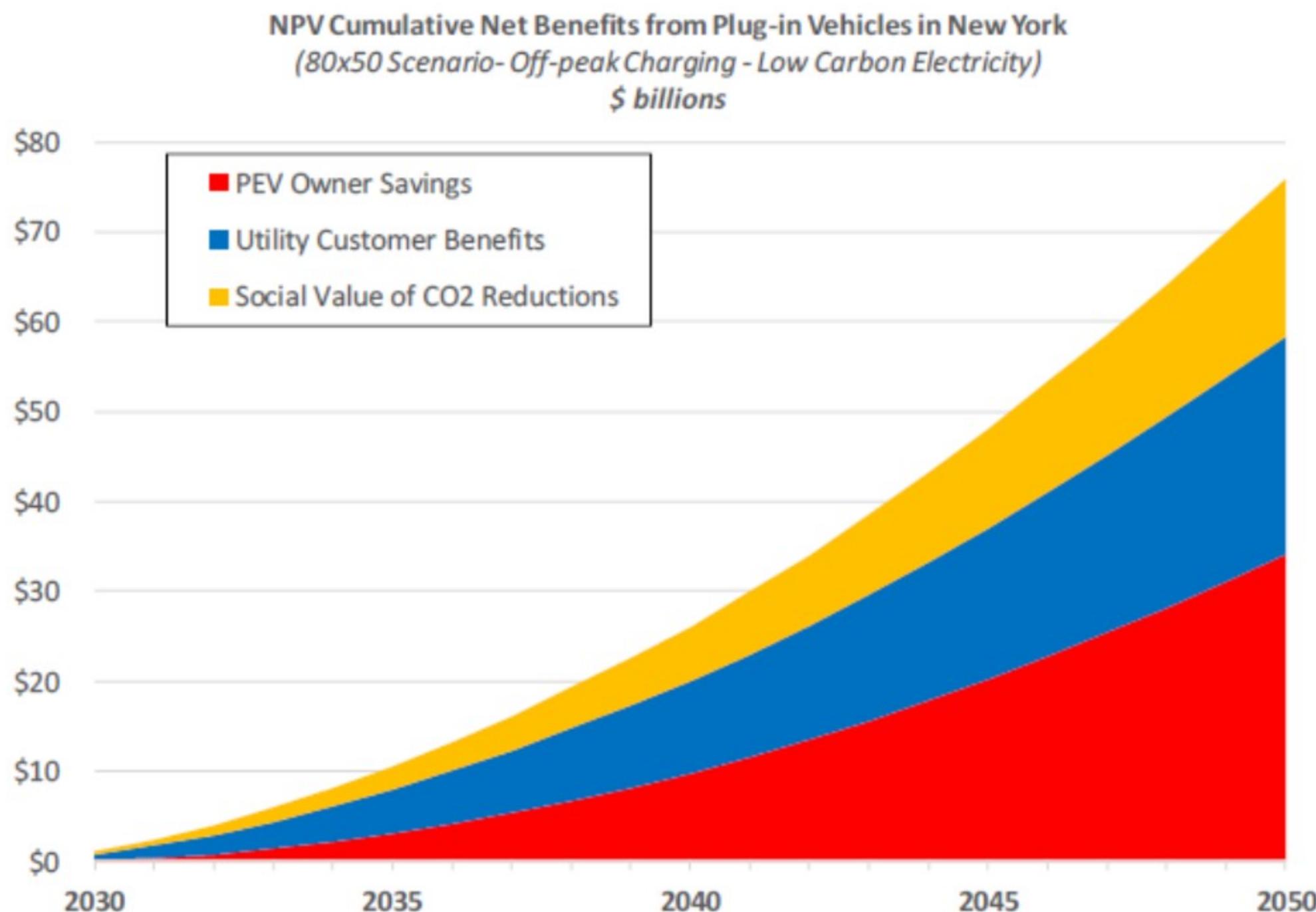
Grid Impacts from EV Charging



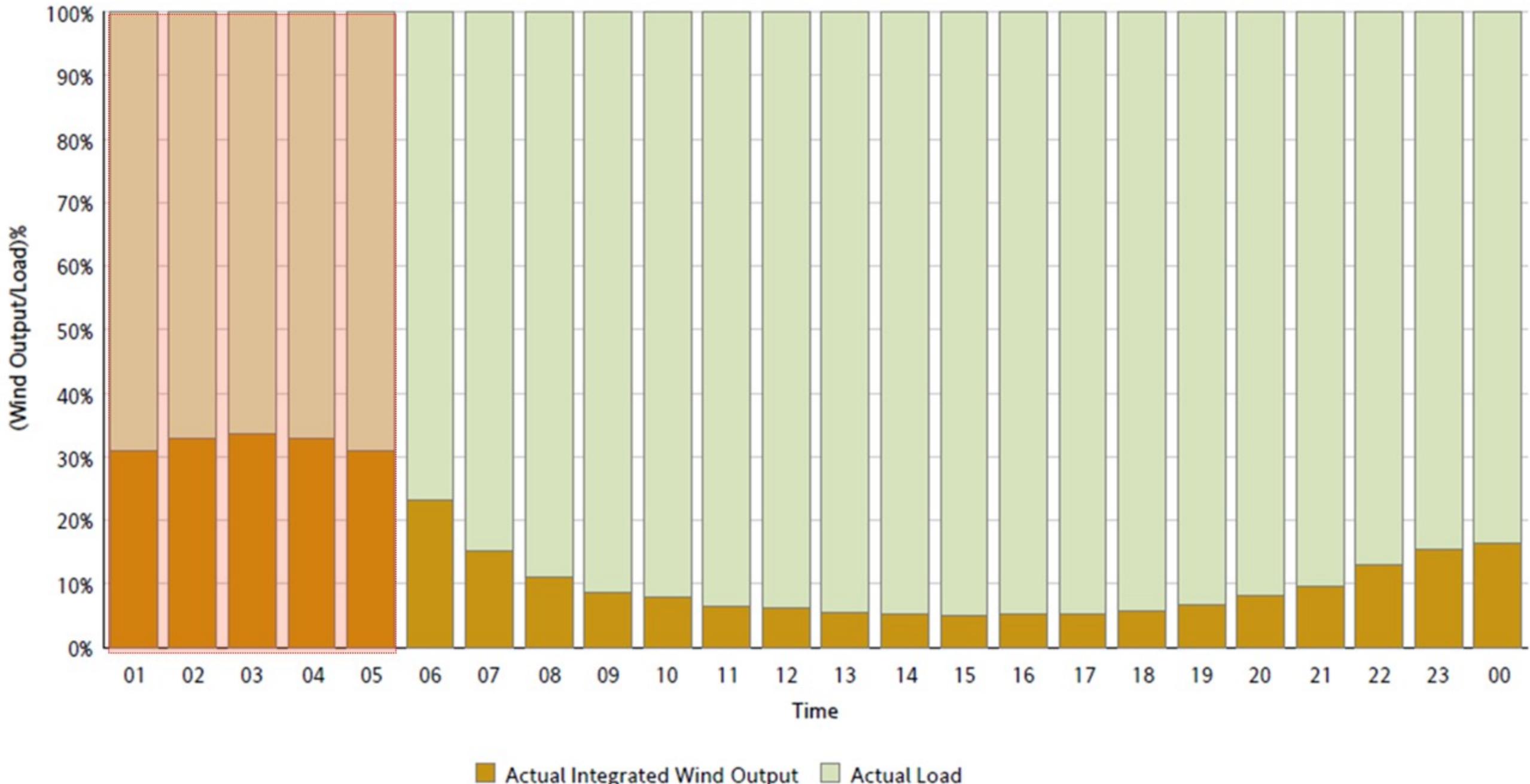
Benefits from Widespread EV Adoption

Figure 2

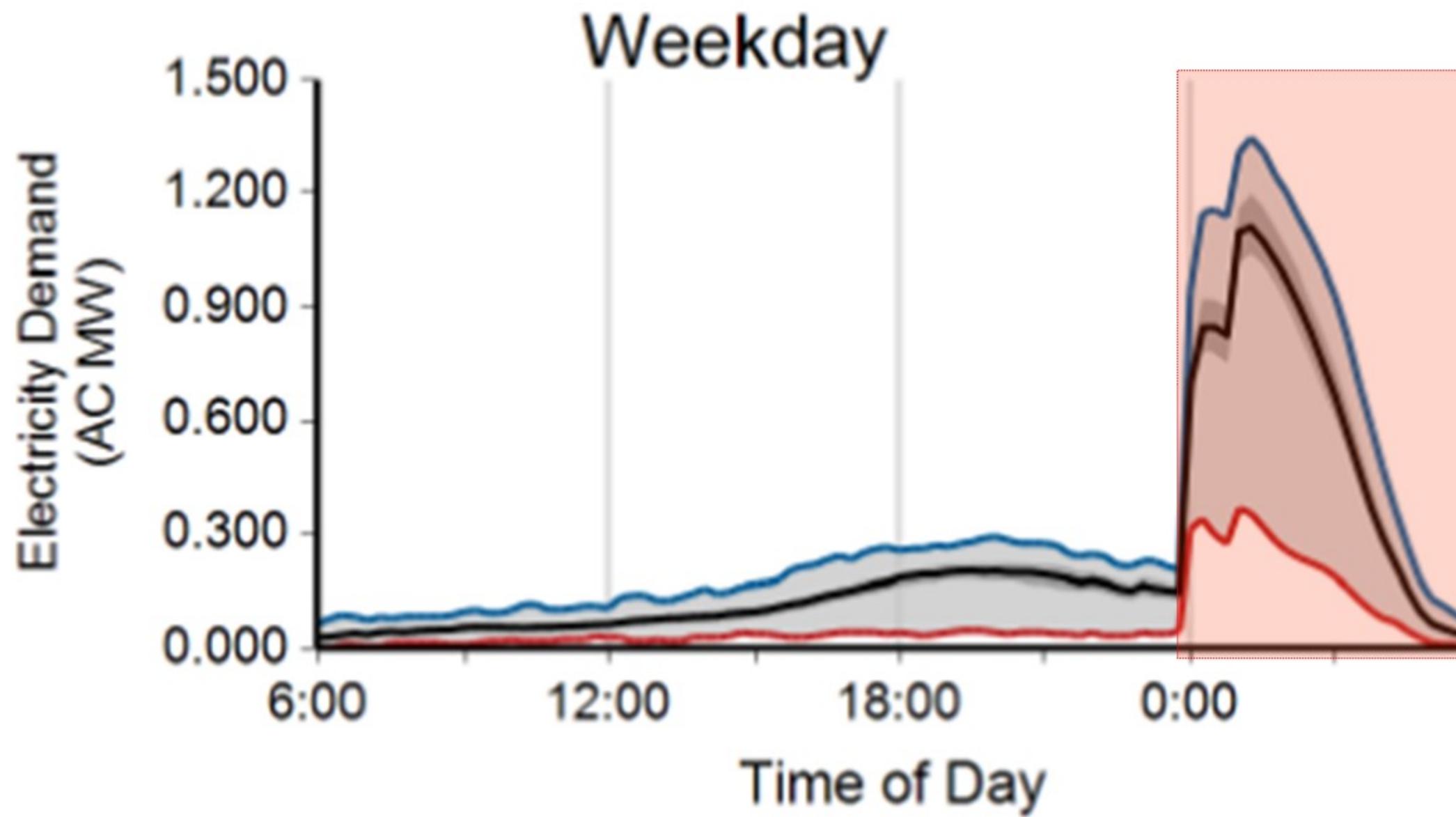
NPV Cumulative Societal Net Benefits from NY PEVs – 80x50 Penetration



Electric Vehicles as Energy Storage



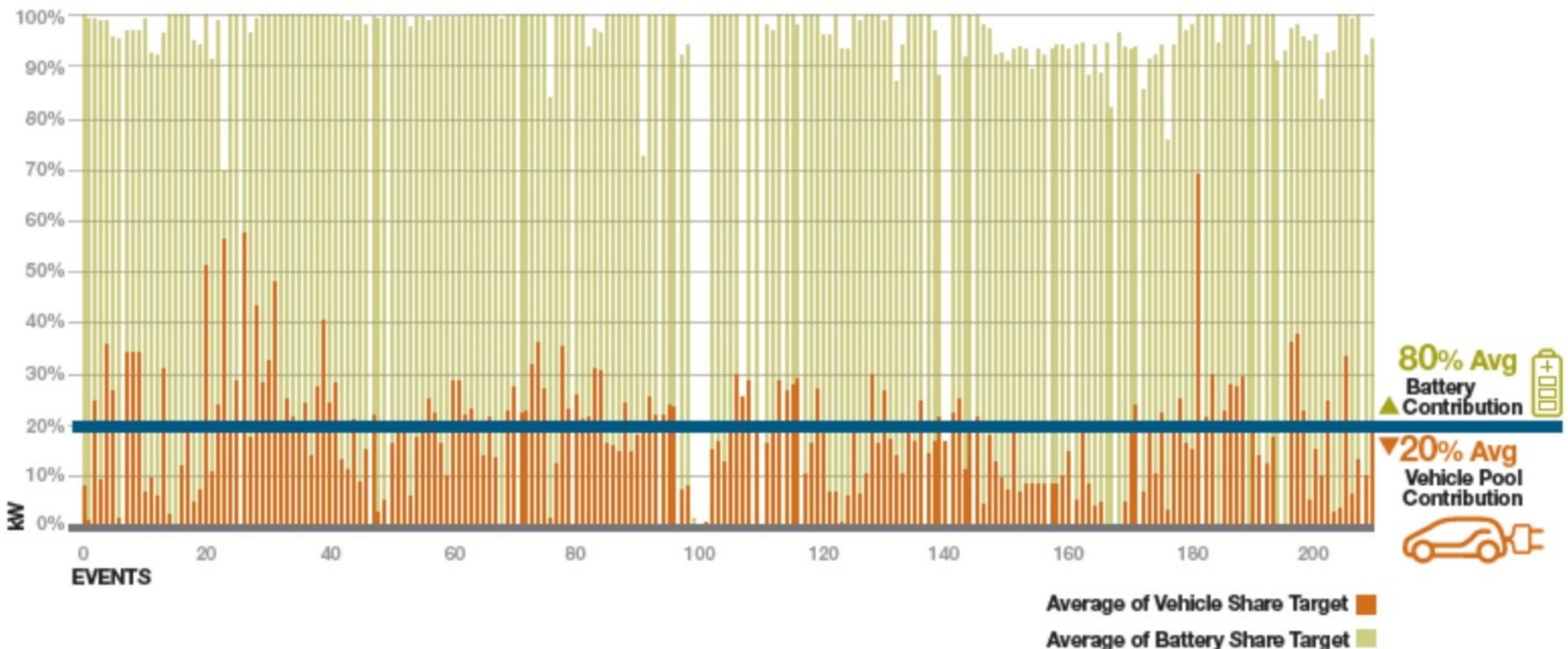
Electric Vehicles as Energy Storage



EVs Can Provide Dynamic Grid Services

FIGURE 12 Vehicle Performance from Target (100 kW)

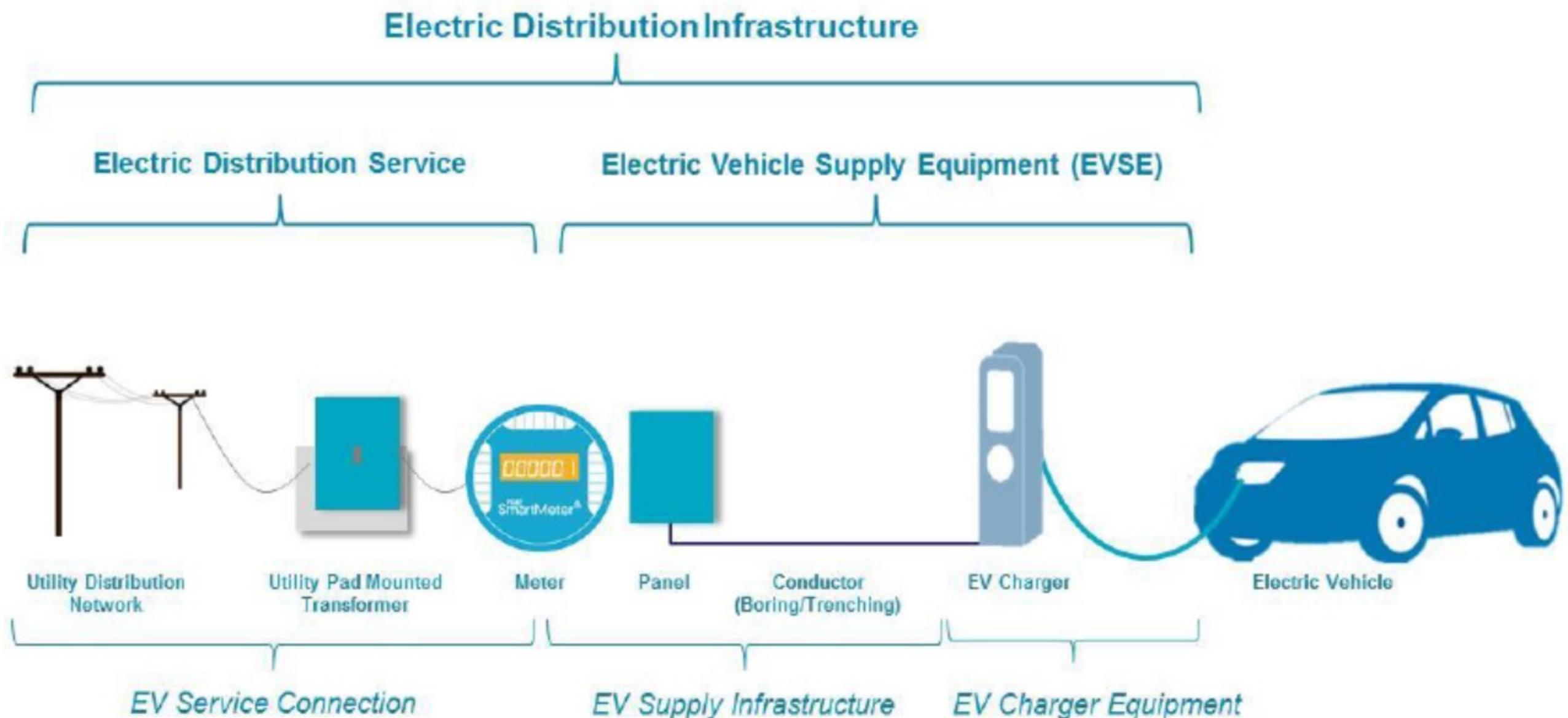
The vehicle pool contributed an average of 20% of the target kW reduction.



Scope of Transportation Electrification



Different Models for Utility Support

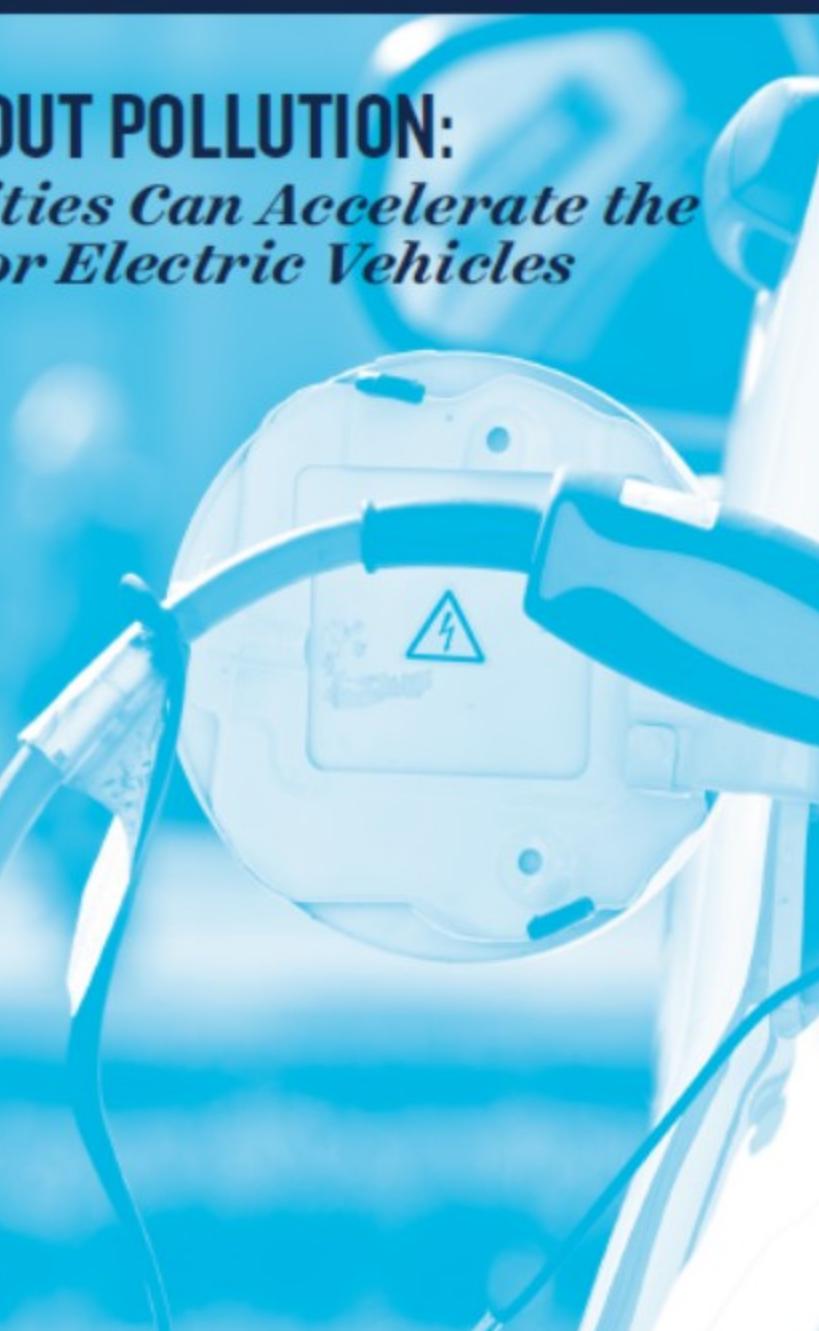


Additional Resources

REPORT

DRIVING OUT POLLUTION:
How Utilities Can Accelerate the Market for Electric Vehicles

Max Baumhefner
Roland Hwang
Pierre Bull



JUNE 2016
R-16-05-E

NRDC

ISSUE BRIEF

GUIDING PRINCIPLES FOR UTILITY PROGRAMS TO ACCELERATE TRANSPORTATION ELECTRIFICATION

The electrification of the transportation sector is not only a key pathway by which to meet air quality and climate goals, but also a singular opportunity for the electric industry. The United States spends more than \$436 billion annually on gasoline and diesel.¹ Diverting a portion of that expenditure to the electric sector can spread the costs of the transmission and distribution grid over more sales, putting downward pressure on the price of electricity while also providing consumers relief from volatile gasoline and diesel prices.

GUIDING PRINCIPLES FOR UTILITY TRANSPORTATION ELECTRIFICATION PROGRAMS

To fully realize environmental, grid, and customer benefits, we present a non-exhaustive set of guiding principles to help frame utility proposals to accelerate transportation electrification:

Deploy Charging Infrastructure Strategically

A lack of access to charging stations is a critical barrier to consumer acceptance of EVs. Utilities should prioritize the deployment of charging stations at locations that maximize EV adoption. The National Academy of Sciences and other organizations have identified the following priority segments for infrastructure deployment:⁴

- **Residences.** The ability to charge an EV at home overnight is central to the decision to purchase an EV. Drivers who cannot plug in at home are unlikely to buy a plug-in vehicle. At-home overnight charging is also the main opportunity to utilize spare capacity in the grid, putting downward pressure on electricity rates. Utilities can offer programs that lower the costs of purchasing and installing charging stations at home; they can also require program participants to take service on time-varying rates and participate in smart-charging programs. Within the residential segment, multi-unit dwellings, such as apartment complexes, are demonstrably underserved, making them ripe for utility investment to move the market beyond single-family homes.⁵

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THANK YOU

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